

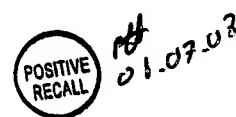
slp 18/04

Dart Aerospace Ltd.

Date: Friday, 04/04/2008 9:23:43 AM
 User: Julie Lecocq

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: BK117 SKIDTUBE ASSEMBLY
Job Number	: 38412	Part Number	: D117762011
Estimate Number	: 12899	Drawing Number	: N/A
P.O. Number	:	Project Number	: N/A
This Issue	: 04/04/2008	Drawing Revision	: A
Prsht Rev.	: NC	Material	:
First Issue	: / /	Due Date	: 18/04/2008
Previous Run	: 38388	Qty:	1 Um: Each
Written By	:		
Checked & Approved By	: <u>JD 08.04.4</u>		
Comment	: Est Rev:A 07.06.11 New Issue EC Est Rev:B 08-02-22 change to revA DD verified by:		



Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	DC	DOCUMENT CONTROL
-----	----	------------------



Comment: DOCUMENT CONTROL

Photocopy bluefile & type labels per PPP-D135-751-011 CHG001

D117-762-04

01.07.03

2.0	38412A	BK117 SKIDTUBE ASSEMBLY
-----	--------	-------------------------



Comment: Sub-Component BK117 SKIDTUBE ASSEMBLY

Batch: 38412A

P-87/3 (1)

3.0	PACKAGING 1	PACKAGING RESOURCE #1
-----	-------------	-----------------------



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

4.0	D35121	WEARPLATE
-----	--------	-----------



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

WEARPLATE

Batch: 37618

P-87/18

5.0	AN968JD10C	Washer
-----	------------	--------



Comment: Qty.: 8.0000 Each(s)/Unit Total: 8.0000 Each(s)

Washer

Batch: M104885

P-87/18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Friday, 04/04/2008 9:23:43 AM
Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 38412

Part Number: D117762011

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

AN3C4A

BOLT



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)

BOLT

BATCH: M107376

7.0

AN451A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Bolt

BATCH: M106662

8.0

D2972

Bushing



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bushing

BATCH: B14103

9.0

MS21042L4

Nut



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Nut

BATCH: M106825

10.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS



08/07/03

11.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D135-751-011

Location:

PPP Rev:

PROF+

12.0

QC21

FINAL INSPECTION/W/O RELEASE

POSITIVE RECALL

EFFECTIVE

AUTH

Comment: FINAL INSPECTION/W/O RELEASE

RELEASED

DATE 08.07.07

08/07/08

Job Completion

B3812 A

MF 08-07-04

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

32.9 PARTS LIST

Item	Qty -011	Qty -041	Qty -043	Qty -101	Part Number	Description
	X				D135-751-011	SKIDTUBE INSTALLATION
	1	X			D135-751-041	REPLACEMENT SKIDTUBE
			X		D135-751-043	WEARPLATE KIT
				X	D135-751-101	SKIDTUBE EXTENSION KIT
1		1			D3507-041	SKIDTUBE ASSEMBLY
2	4				**BRS8-96/48SZ-M8-W2	CLAMP
3	8				**LN9038-08032	SCREW
4		1			*D2965	CAP
5		1			*D2965-3	CAP
6		2			***AELS-1032-130	INSERT
7		2			***AELS-1032-225	INSERT
8		2			*AN3C5A	BOLT
9		2			*AN960C10L	WASHER
10		2			*AN526C1032-10	SCREW
20A		1	1		*D3508-1	WEARPLATE
20B		1	1		*D3558-1	GASKET
21A		1	1		*D3508-3	WEARPLATE
21B		1	1		*D3558-3	GASKET
22A		1	1		*D3508-5	WEARPLATE
22B		1	1		*D3558-5	GASKET
23A		1	1		*D3508-7	WEARPLATE
23B		1	1		*D3558-7	GASKET
24		38			*AELS-1032-130	INSERT
25	8	30	38		*AN3C4A	BOLT
26	8	30	38		*AN960C10L	WASHER
27	2		2		D3512-1	WEARPLATE
30		1			*AELS-1032-225	INSERT
31		1			*AN3C4A	BOLT
32		1			*AN960C10L	WASHER
40		4			*D3492-041	PLUG ASSEMBLY
41		4			***NAS1611-010	O-RING
42		2			*D3492-047	PLUG ASSEMBLY
43		2			***NAS1611-007	O-RING
44		4			*D3506-1	DOUBLER
45		8			*MS20601AD4W3	RIVET
46		2			*D3506-3	DOUBLER
47		4			*MS20601AD4W3	RIVET
48		4			*D3492-043	PLUG ASSEMBLY
49		4			***NAS1611-013	O-RING
50				1	D3510-041	INSERT ASSEMBLY
51				2	***AELS-1032-130	INSERT
52				6	***AELS-1032-225	INSERT
53				2	***ALS4-428-165	INSERT
54				2	AN4C7A	BOLT
55				2	AN960C416L	WASHER
56				2	AN3C4A	BOLT
57				8	AN3C7A	BOLT
58				10	AN960C10L	WASHER

* PART IS INCLUDED WITH D3507-041 SKIDTUBE ASSEMBLY

** TO BE SUPPLIED BY CUSTOMER, LISTED AS REFERENCE ONLY

*** DENOTES PART IS INCLUDED WITH ASSEMBLY ABOVE

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WORK ORDER
NO. 384/2

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32-00-00

5.0 PARTS LIST

5.1 D117-762-011 Skidtube Parts List

Item	Qty -011	Qty -041	Part Number	Description
	X		D117-762-011	SKIDTUBE INSTALLATION
	1	X	D117-762-041	REPLACEMENT SKIDTUBE
1		1	D3582-041	SKIDTUBE ASSEMBLY
2	2		**1121-51002	SKID SHOE
3	2		**1121-51102	CLAMPING RING
4	8		**LN9380M8X45	HEXAGON BOLT
5	8		**LN9023A8-1.4544.9	LOCKING WASHER
6	8		**LN9025-0815K	WASHER (OR LN9025-0815L)
10		1	*D2965	CAP
11		2	***AELS-1032-225	INSERT
12		2	*AN3C5A	BOLT
13		2	*AN960C10L	WASHER
20A		1	*D3508-9	WEARPLATE
20B		1	*D3558-9	GASKET
21A		1	*D3508-3	WEARPLATE
21B		1	*D3558-3	GASKET
22A		1	*D3508-11	WEARPLATE
22B		1	*D3558-11	GASKET
23A		1	*D3508-13	WEARPLATE
23B		1	*D3558-13	GASKET
24		36	*AELS-1032-130	INSERT
25	8	28	*AN3C4A	BOLT
26	8	28	*AN960C10L	WASHER
27	2		D3512-1	WEARPLATE
30		2	*AELS-1032-130	INSERT
31		2	*AN4-4A	BOLT
32		2	*AN960JD416L	WASHER
40		2	*D3492-049	PLUG ASSEMBLY
41		2	***NAS1611-016	O-RING
42		2	*D3492-051	PLUG ASSEMBLY
43		2	***NAS1611-015	O-RING
44		6	*D3492-053	PLUG ASSEMBLY
45		6	***NAS1611-012	O-RING
50	2		AN4-51A	BOLT
51	4		D2972	BUSHING
52	2		MS21042L4	NUT (OR MS21042-4)

* PART IS INCLUDED WITH D3582-041 SKIDTUBE ASSEMBLY

** TO BE SUPPLIED BY CUSTOMER, LISTED AS REFERENCE ONLY

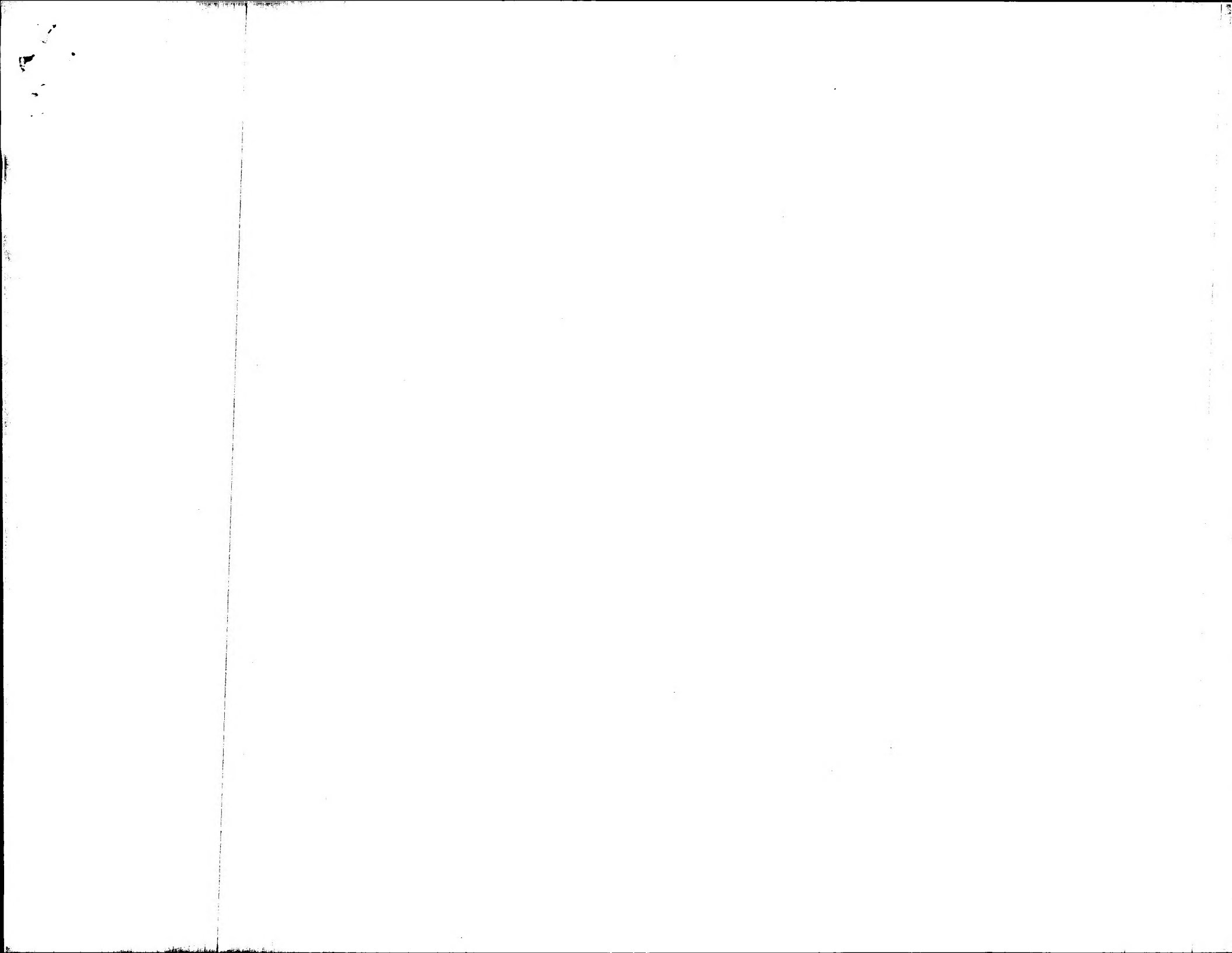
*** DENOTES PART IS INCLUDED WITH ASSEMBLY ABOVE

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Revision: **A**

Date: 07.04.27

SHOP COPY
 RETURN TO
 ENGINEERING
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 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 NO. 38412



Date: Friday, 04/04/2008 9:24:09 AM
 User: Julie Lecocq

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : BK117 SKIDTUBE ASSEMBLY
 Job Number : 38412A
 Estimate Number : 12898
 P.O. Number :
 This Issue : 04/04/2008 S.O. No. :
 Prsht Rev. : NC Part Number : D117762041
 First Issue : // Type : LANDING GEAR Drawing Number : D3582 REV A
 Previous Run : 38388A Drawing Revision : A
 Material :
 Due Date : 18/04/2008 Qty: 1 Um: Each
 Written By :
 Checked & Approved By : JD 08-4-4
 Comment : Est Rev:A 07.06.11 New Issue EC
 Prototype for engineering use only (LG0005-32910)
 Est Rev:B 08-02-22 change to revA as per dwg DD verified
 by:



Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 DC DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Photocopy bluefile & type labels per PPP D117-762-041 CHG001

N/A

2.0 D2962150 3.540 Outer Tube, Extrut



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 D2962-150

Extrusion

78672 SL 8-4-7

3.0 SKIDTUBES 1 SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Determine square end of tube and deburr

2-Drill #30 pilot holes using DT8678. Do not open holes.

3- Deburr holes.

SL 8-4-7

4.0 BENDING BENDING MACHINE - SKIDTUBES



Comment: BENDING MACHINE

Bend tube as per program on CNC Bender and Dwg D3582. Use 5/16" locator pin on buggy "A".

8-4-8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 04/04/2008 9:24:09 AM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 38412A

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

- 1-Cut Fwd end of the tube using DT8185 *EL 8-4-8*
 - 2-Cut Aft end at VC using DT8185
 - 3-Debur ends
 - 4-Drill Aft Cap holes using DT8678 ***DO NOT OPEN AFT CAP HOLE***
 - 5-Locate DT 8973 & Drill Ground wire hole on top of Tube.
 - 6-Install 3/16 cleco in Ground wire hole ,then drill all X-Bolt holes using 3/16" drill.
 - 7-Drill pilot holes for wearplates using DT8974
 - 8-Open wearplate holes and ground wire holes to Ø19/64" (0.297") as per Dwg D3582.
 - 9-Open Aft Cap holes using .209" drill.
 - 10-Debur holes.
- SL 8-4-9*

6.0

D2964

Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Cap

Batch:

214101

BE

08/04/09

7.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Weld fwd cap D2964 per dwg D3582 and QSI 004

A/R AL ROD

Batch:

m106330

m107263

BE

08/04/09

2-Grind flush

DP 8-4-9

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 04/04/2008 9:24:09 AM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 38412A

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

8.0

QC10

VISUAL INSPECTION OF GROUND WELDS



Comment: VISUAL INSPECTION OF GROUND WELDS

PD 08-04-09 / 08/04/09

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/04/09

10.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

DP 8-4-10

11.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

08/04/08

12.0

D2971

Cross Bolt Spacer



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Cross Bolt Spacer

batch

B33221

BE 08/04/11

13.0

D2973

Cross Bolt Spacer



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Cross Bolt Spacer

Batch:

B14636

BE 08/04/11

14.0

D36621

SPACER



Comment: Qty.: 3.0000 Each(s)/Unit Total : 3.0000 Each(s)

SPACER

batch

B37189

BE 08/04/11

15.0

D36623

SPACER



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

SPACER

batch

B37190

BE 08/04/11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 04/04/2008 9:24:09 AM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 38412A

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

16.0

D35841

WEB



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)
WEB

B38411

DP 8-4-10

17.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Open X-Bolt holes to .750"(4Places) as per Dwg D3582, section B-B

2-Counter Sink X-BOLT holes as per Dwg D3582

3-Deburr and blow out chips from inside of tube.

4-Bond web as per Dwg D3582 & QSI 015

A/R 241 Sike Flex

Batch: M107397

Exp Date: 8-10-30

DP 8-4-10

5-Weld x-bolt spacers(D2973) as per Dwg D3582 section B-B.

A/R AL ROD

Batch: M107263

LE 08/04/11

6-Grind welds flush

SL 8-4-11

Tools: E

18.0

QC10

VISUAL INSPECTION OF GROUND WELDS



Comment: VISUAL INSPECTION OF GROUND WELDS

PD 08-04-11

08/04/11 (11)

19.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

7

08/04/11 (11)

20.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

PRESS
WASH

BR 08-04-15

M107550

BR 08-04-15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No~ DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 04/04/2008 9:24:09 AM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services		Drawing Name: BK117 SKIDTUBE ASSEMBLY	
Job Number: 38412A		Part Number: D117762041	
Job Number: 			
Seq. #:	Machine Or Operation:	Description :	
21.0	QC3	INSPECT POWDER COAT/CHEMICAL CONVERSION	
		 (1X)	
Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION <i>m-h</i> 08/04/16			
22.0	AELS1032130	INSERT	
			
Comment: Qty.: 36.0000 Each(s)/Unit Total : 36.0000 Each(s) Insert Batch: <u>M 165855</u> <i>m-h</i>			
23.0	ALS4428165	Inserts	
			
Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s) Inserts batch <u>M 6989</u> <i>m-h</i> ***same as ALS7-428-165 QSI 0017 ***			
24.0	HAND FINISHING1	HAND FINISHING RESOURCE #1	
		 (1X)	
Comment: HAND FINISHING RESOURCE #1 Install Wearplate & Ground Wire inserts as per Dwg D3582. <i>m-h</i> 08/04/16			
25.0	QC5	INSPECT WORK TO CURRENT STEP	
		 08/04/16 (1)	
Comment: INSPECT WORK TO CURRENT STEP Inspect Inserts			
26.0	D2965	Cap	
		 *	
Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s) Cap Batch: <u>B 38605</u> <i>m-h</i>			
27.0	D35083	WEARPLATE	
			
Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s) WEARPLATE Batch: <u>B 38431</u> <i>m-h</i> 08/04/16			

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 38412A

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

28.0

D35089

WEARPLATE



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

WEARPLATE

Batch:

B 36417

m.h

29.0

D350811

WEARPLATE



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Batch:

WEARPLATE

B 36415

m.h

30.0

D350813

WEARPLATE



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

WEARPLATE

Batch:

B 36416

m.h

31.0

D35583

GASKET



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

GASKET

Batch:

~~B 299999~~

B 38613

m.h

32.0

D35589

GASKET



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

GASKET

Batch:

B 36420

m.h

33.0

D355811

GASKET



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

GASKET

Batch:

B 36419

m.h

34.0

D355813

GASKET



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

GASKET

Batch:

B 36418

m.h 08/04/16

(1X)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 04/04/2008 9:24:09 AM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 38412A

Part Number: D117762041

Job Number:



Seq. #:	Machine Or Operation:	Description :
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35.0	AN3C4A	BOLT
------	--------	------



Comment: Qty.: 28.0000 Each(s)/Unit Total : 28.0000 Each(s)

BOLT

Batch:

M 107376

m-h

36.0	AN3C5A	Bolt
------	--------	------



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Bolt

Batch:

M 106780

m-h

37.0	AN44A	Bolt
------	-------	------



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Bolt

batch

M 101291

m-h

38.0	AN960C10L	washer
------	-----------	--------



Comment: Qty.: 28.0000 Each(s)/Unit Total : 28.0000 Each(s)

washer

Batch:

M 107376

m-h

39.0	AN960JD10L	Washer
------	------------	--------



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Washer

batch

M 104885

m-h

40.0	AN960JD416L	Washer
------	-------------	--------



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Washer

batch

M 107008

m-h

41.0	D3492049	PLUG ASSEMBLY
------	----------	---------------



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

PLUG ASSEMBLY

batch

B 37288

m-h 08/04/16

(IX)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 04/04/2008 9:24:09 AM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 38412A

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

42.0

D3492051

PLUG ASSEMBLY



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

PLUG ASSEMBLY

batch

B37289

M.L.

43.0

D3492053

PLUG ASSEMBLY



Comment: Qty.: 6.0000 Each(s)/Unit Total: 6.0000 Each(s)

PLUG ASSEMBLY

batch

B37290

(IX)

B37474

(SX)

M.L.

44.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

1-Inspect for Foreign objects

2-Install Aft cap as per Dwg D3582, Detail "C"

A/R 241 Sika Flex Batch:

Exp Date:

M107397

08/10

3-Install Wearplates as per Dwg D3582,

Note:Install Bolt and washer on Ground Wire inserts on top of tube see section D-D of dwg D3582

*****Do not install bolts where indicated on Dwg(Note #6)*****

A/R 241 Sika Flex Batch:

Exp Date:

M107397

08/10

M.L.

08/04/17

4- Wing Walk as per Dwg D3043 and QST 0054.4

M106894

M.L.

08/04/17

(IX)

45.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP



08/04/17

01.07.07

46.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D117-762-041

Location:

PPP Rev:

APP 38412

C.H.3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____




QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 04/04/2008 9:24:09 AM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services		Drawing Name: BK117 SKIDTUBE ASSEMBLY	
Job Number: 38412A		Part Number: D117762041	
Job Number:			
Seq. #:	Machine Or Operation:	Description :	
47.0	QC21	FINAL INSPECTION/W/O RELEASE	
			08/07/08 <i>[Signature]</i>
Comment: FINAL INSPECTION/W/O RELEASE			

Job Completion



POSITIVE RECALL
EFFECTIVE 08/07/08 AUTH h
RELEASED PE DATE 08.07.08

MF 08-07-08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

32.9 PARTS LIST

Item	Qty -011	Qty -041	Qty -043	Qty -101	Part Number	Description
	X				D135-751-011	SKIDTUBE INSTALLATION
	1	X			D135-751-041	REPLACEMENT SKIDTUBE
			X		D135-751-043	WEARPLATE KIT
				X	D135-751-101	SKIDTUBE EXTENSION KIT
1		1			D3507-041	SKIDTUBE ASSEMBLY
2	4				**BRS8-96/48SZ-M8-W2	CLAMP
3	8				**LN9038-08032	SCREW
4		1			*D2965	CAP
5		1			*D2965-3	CAP
6		2			***AELS-1032-130	INSERT
7		2			***AELS-1032-225	INSERT
8		2			*AN3C5A	BOLT
9		2			*AN960C10L	WASHER
10		2			*AN526C1032-10	SCREW
20A		1	1		*D3508-1	WEARPLATE
20B		1	1		*D3558-1	GASKET
21A		1	1		*D3508-3	WEARPLATE
21B		1	1		*D3558-3	GASKET
22A		1	1		*D3508-5	WEARPLATE
22B		1	1		*D3558-5	GASKET
23A		1	1		*D3508-7	WEARPLATE
23B		1	1		*D3558-7	GASKET
24		38			*AELS-1032-130	INSERT
25	8	30	38		*AN3C4A	BOLT
26	8	30	38		*AN960C10L	WASHER
27	2		2		D3512-1	WEARPLATE
30		1			*AELS-1032-225	INSERT
31		1			*AN3C4A	BOLT
32		1			*AN960C10L	WASHER
40		4			*D3492-041	PLUG ASSEMBLY
41		4			***NAS1611-010	O-RING
42		2			*D3492-047	PLUG ASSEMBLY
43		2			***NAS1611-007	O-RING
44		4			*D3506-1	DOUBLER
45		8			*MS20601AD4W3	RIVET
46		2			*D3506-3	DOUBLER
47		4			*MS20601AD4W3	RIVET
48		4			*D3492-043	PLUG ASSEMBLY
49		4			***NAS1611-013	O-RING
50				1	D3510-041	INSERT ASSEMBLY
51				2	***AELS-1032-130	INSERT
52				6	***AELS-1032-225	INSERT
53				2	***ALS4-428-165	INSERT
54				2	AN4C7A	BOLT
55				2	AN960C416L	WASHER
56				2	AN3C4A	BOLT
57				8	AN3C7A	BOLT
58				10	AN960C10L	WASHER

* PART IS INCLUDED WITH D3507-041 SKIDTUBE ASSEMBLY
 ** TO BE SUPPLIED BY CUSTOMER, LISTED AS REFERENCE ONLY
 *** DENOTES PART IS INCLUDED WITH ASSEMBLY ABOVE

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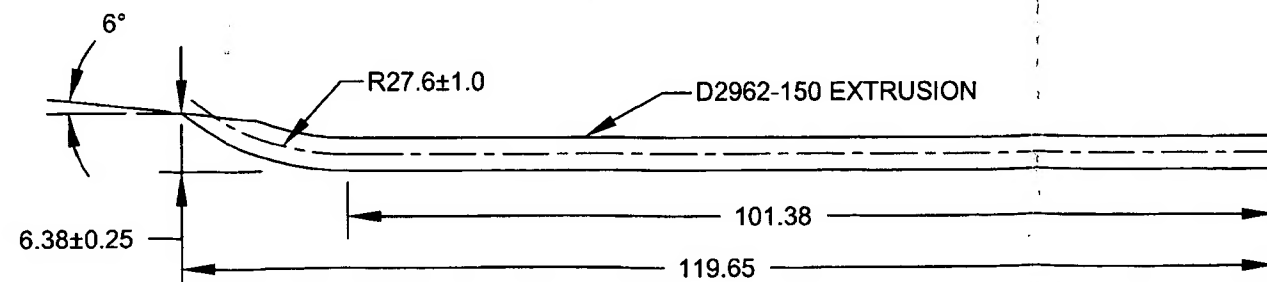
PARTS LIST FOR D3582-041 SKIDTUBE ASSEMBLY

Qty	Part Number	Description
X	D3582-041	SKIDTUBE ASSEMBLY
1	D2962-150	EXTRUSION
1	D2964	CAP
1	D2965	CAP
1	D2971	CROSS BOLT SPACER
2	D2973	CROSS BOLT SPACER
2	D3492-049	PLUG ASSEMBLY
2	D3492-051	PLUG ASSEMBLY
6	D3492-053	PLUG ASSEMBLY
1	D3508-3	WEARPLATE
1	D3508-9	WEARPLATE
1	D3508-11	WEARPLATE
1	D3508-13	WEARPLATE
1	D3558-3	GASKET
1	D3558-9	GASKET
1	D3558-11	GASKET
1	D3558-13	GASKET
1	D3584-1	WEB
3	D3662-1	CROSS BOLT SPACER
1	D3662-3	CROSS BOLT SPACER
36	AELS-1032-130	INSERT
2	ALS7-428-165	INSERT
28	AN3C4A	BOLT
2	AN3-5A	BOLT
2	AN4-4A	BOLT
28	AN960C10L	WASHER
2	AN960JD10L	WASHER
2	AN960JD416L	WASHER

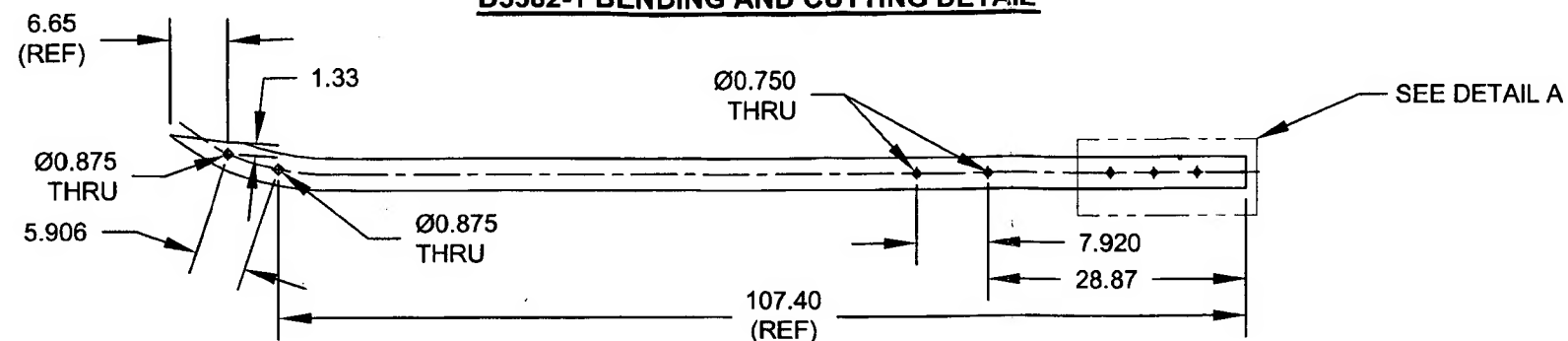
GENERAL NOTES:

- ALL DIMENSIONS ARE IN INCHES
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- WELDING TO BE DONE PER DART QSI 004.
- INSERT D3584-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 AFTER BENDING.
- USE DART DRILL TEMPLATE DT8900 TO LOCATE AND DRILL Ø0.297 HOLES (36 PLACES) FOR WEARSHOE INSERTS. INSTALL AELS-1032-130 PER SECTION G-G (36 PLACES) AFTER FINISH. SEAL WEARPLATE BOLTS WITH SIKAFLEX-241/-291.
- DO NOT INSTALL AN3C4A BOLTS AND AN960C10L WASHERS IN INDICATED LOCATIONS.
- FINISH:
 - CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3584-1 WEB.
 - POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3.
 - ANTI-SKID PAINT AS INDICATED TO 1.00 ABOVE CENTER LINE PER DART QSI 005 4.4

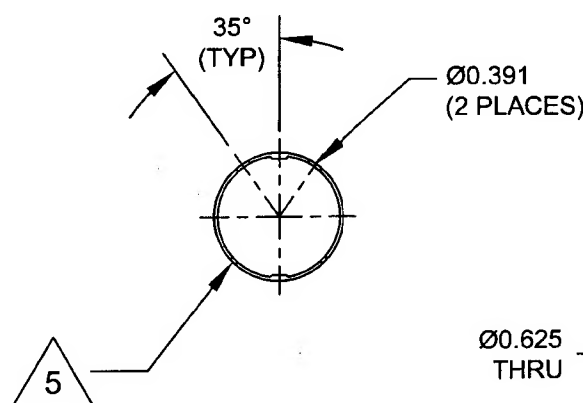
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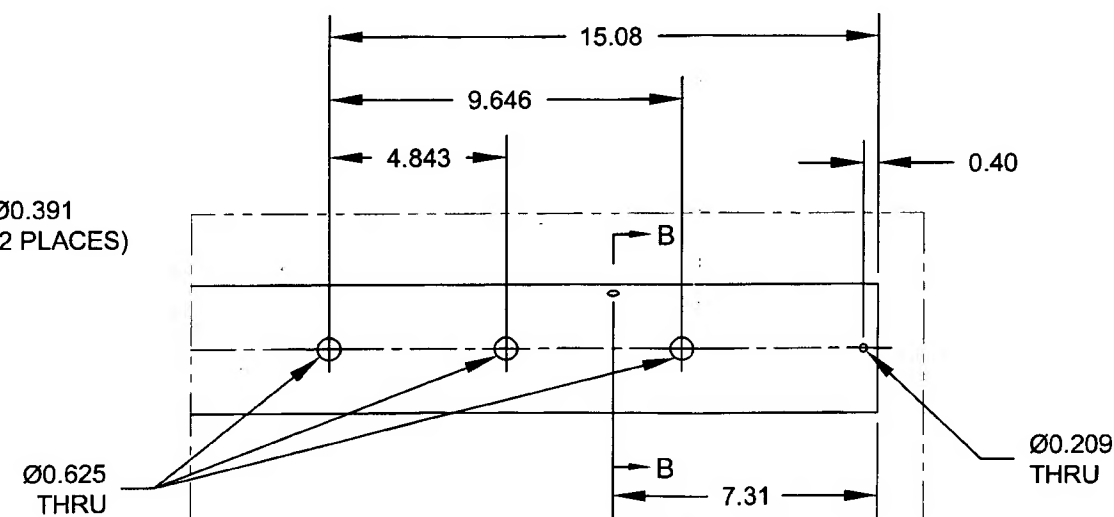
D3582-1 BENDING AND CUTTING DETAIL



D3582-1 DRILLING DETAIL



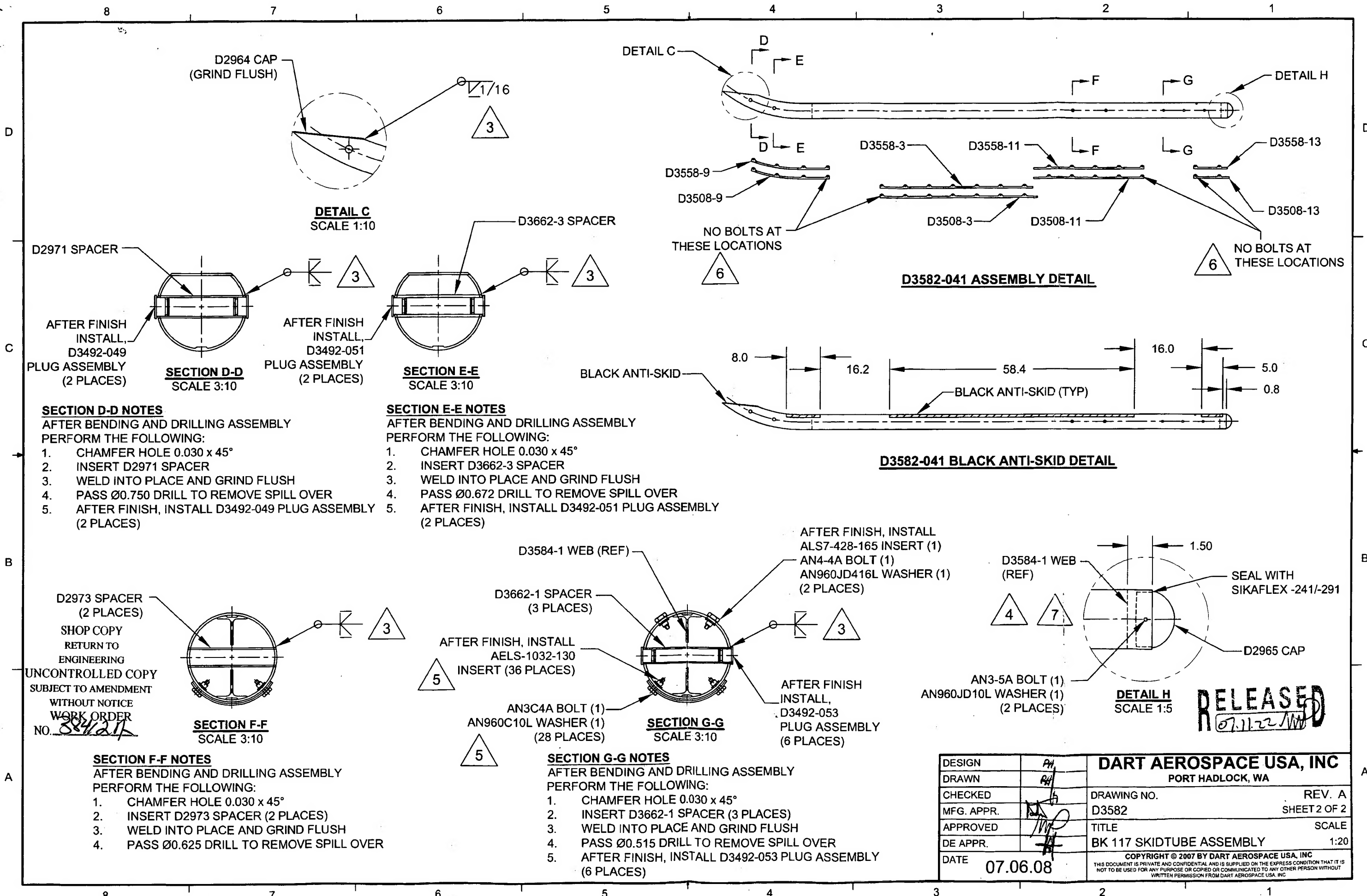
SECTION B-B
SCALE 1:5



DETAIL A
SCALE 1:5

RELEASED
07-11-22

A	NEW ISSUE	PH	07.06.08
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE USA, INC PORT HADLOCK, WA	
DRAWN	PH		
CHECKED	PH	DRAWING NO.	REV. A
MFG. APPR.	PH	D3582	SHEET 1 OF 2
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	BK 117 SKIDTUBE ASSEMBLY	1:20
DATE	07.06.08	COPYRIGHT © 2007 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	



- SECTION D-D NOTES**
AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:
1. CHAMFER HOLE 0.030 x 45°
 2. INSERT D2971 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. PASS Ø0.750 DRILL TO REMOVE SPILL OVER
 5. AFTER FINISH, INSTALL D3492-049 PLUG ASSEMBLY (2 PLACES)

- SECTION E-E NOTES**
AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:
1. CHAMFER HOLE 0.030 x 45°
 2. INSERT D3662-3 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. PASS Ø0.672 DRILL TO REMOVE SPILL OVER
 5. AFTER FINISH, INSTALL D3492-051 PLUG ASSEMBLY (2 PLACES)

- SECTION F-F NOTES**
AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:
1. CHAMFER HOLE 0.030 x 45°
 2. INSERT D2973 SPACER (2 PLACES)
 3. WELD INTO PLACE AND GRIND FLUSH
 4. PASS Ø0.625 DRILL TO REMOVE SPILL OVER

- SECTION G-G NOTES**
AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:
1. CHAMFER HOLE 0.030 x 45°
 2. INSERT D3662-1 SPACER (3 PLACES)
 3. WELD INTO PLACE AND GRIND FLUSH
 4. PASS Ø0.515 DRILL TO REMOVE SPILL OVER
 5. AFTER FINISH, INSTALL D3492-053 PLUG ASSEMBLY (6 PLACES)

D3582-041 ASSEMBLY DETAIL

D3582-041 BLACK ANTI-SKID DETAIL

DETAIL H
SCALE 1:5

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	PH	PORT HADLOCK, WA	
CHECKED	h	DRAWING NO.	REV. A
MFG. APPR.	h	D3582	SHEET 2 OF 2
APPROVED	h	TITLE	SCALE
DE APPR.	h	BK 117 SKIDTUBE ASSEMBLY	1:20
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RELEASED
07.11.22

NO. 148

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: B Barclay Elliot
Job number: 38384A
Part number: D117 762 OUI
Description: Skid tube Bk117
Welding Process: Tig[☒] Mig[]
Base material: Aluminium
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier Pd. Divul. Date of Test Coupon 08-04-14

Welder B Barclay Elliot Date of Test Coupon 08-04-14

The above named individual is qualified in accordance with AWS D17.1.2001 to weld